

**IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE**

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)	Chapter 11
)	Case No. 01-01139 (JKF)
In re: W.R. GRACE & CO., et al.,)	(Jointly Administered)
)	
Debtors.)	Hearing Dates on “Product Identification
)	Issues”: April 23-25, 2007
)	
)	
)	

DECLARATION OF DR. TIM VANDER WOOD

I, Dr. Tim Vander Wood, hereby declare under penalty of perjury that the following is true and correct:

1. I am a founder, President and Executive Director of MVA Scientific Consultants, and submit this declaration, pursuant to the Court’s April 11, 2007 Modified Amended Scheduling Order for Adjudication of Asbestos PD Claims, in support of Claimant State of California, Department of General Services’ (“Claimant” or “DGS”) direct case at the April 23-25, 2007 hearings to adjudicate Debtors’ product identification-based objections to Claimant’s sixteen proofs of claim.

Retention of MVA Scientific Consultants

2. In or about January 2003, MVA Scientific Consultants was retained by DGS to analyze samples of building materials contained in sixteen of its buildings located in California (the “Buildings”) that were believed to contain asbestos and provide an expert opinion as to the identify of the asbestos-containing materials’ manufacturer.¹ The methods that MVA Scientific Consultants employed in the analyses, findings and conclusion are reflected in my expert reports (the “MVA Expert Reports”) issued for Claimant. Copies of such reports are included in

¹ Compensation for my services related to the analysis and preparation of the MVA Expert Reports is \$300 per hour. For deposition or trial testimony, my rate is \$400 per hour and \$200 per hour for travel time.

Claimants proposed Ex. 25. As set forth in the MVA Expert Reports, the asbestos materials contained in each of the sixteen Buildings includes Monokote-3, Zonolite Acoustical Plastic and/or Zonolite Finish Coat, which were manufactured by Debtors.

Qualifications

3. As provided in my curriculum vitae, I have extensive educational and professional qualifications as a microanalyst and in identifying the manufacturer(s) of asbestos-containing products.

A. Educational Qualifications Summary

4. I earned a Bachelor of Science degree from the University of North Carolina, Chapel Hill, in 1974. I also obtained a Master of Science degree from Florida State University and a Ph.D. degree in geophysical sciences from the University of Chicago, in 1978 and 1983, respectively. In 1989, I also earned a Masters in Business Administration from Emory University.

B. Work Experience Summary

5. I have extensive and wide-ranging experience in microanalysis for assessment of small particles utilizing various scientific methods, including electron beam, ion beam and photon beam techniques, to assess or determine the source of the products containing the analyzed particles.

6. In 1990, I founded MVA Scientific Consultants, which is engaged in the business of microanalysis of various minerals for source identification, contamination control, process monitoring, environmental monitoring and pollution studies. Since its founding, I have held the position of President and Executive Director.

7. My role and duties as President and Executive Director include oversight of all matters, growth and operation of a state-of-the-art microanalytical and consulting laboratory.

8. From 2000 to 2001, I also held the position of Visiting Professor at Florida A&M University, where I instructed a student on microanalysis.

9. Previously, I was employed by McCrone Associates as a Director of Services from 1986 to 1990, and as an Analytical Chemist from 1983 to 1986. My job duties as a Director of Services included responsibility for all aspects of the day-to-day operation of a state of the art consulting laboratory, including oversight of a staff of consultants, assurance that the highest scientific standards were maintained in the laboratory's work, administration and scientific oversight of research contracts. As an Analytical Chemist, my job duties included consulting for clients in industry, government and academia for problems involving material characterization, contamination, corrosion, and small particle identification. In that role, I further developed my expertise in a variety of analytical techniques, including electron microscopy, x-ray fluorescence spectroscopy, and secondary ion mass spectroscopy, as well as broadening my knowledge of a variety of other techniques, such as atomic emission spectroscopy, Auger and photo-electron spectroscopies, infrared and Raman spectroscopies, x-ray diffraction, and optical microscopy.

10. I also have teaching experience at the undergraduate and graduate level, as well as research experience. In 1983, I worked as a Research Associate in the Chemistry Department of Arizona State University, where my primary job duties were to develop electron microscopy and energy dispersive x-ray spectrometry for the analysis of small particles. From 1980-1983, I was employed by The Enrico Fermi Institute of the University of Chicago as a Graduate Research Assistant. As a Graduate Research Assistant, my job duties primarily was the application of

secondary ion mass spectrometry to the isotopic analysis of small particles. In 1979, I was an instructor in the Physical Sciences Department of Miami-Dade Community College, where I taught Introduction to Earth Science. From 1976 to 1978, I worked as a Graduate Teaching and Research Assistant in the Oceanography Department of Florida State University, where my job responsibilities consisted of teaching Introduction to Oceanography and conducting research into the analysis of small particles using proton induced x-ray emission and energy dispersive x-ray spectrometry, and research into the isotopic composition of ancient sediments.

11. My research efforts have included characterization of atmospheric aerosols, application of secondary ion mass spectrometry to the dating of ancient rocks for elucidation of their history, investigations into the fundamental basis of electron microprobe analysis, and a continuing interest in the development and application of techniques of microanalysis.

C. Publications, Presentations and Other Credentials

12. In addition to my extensive educational and work background, I have authored over fifty publications and presentations on topics, including contaminant source identification. These publications and presentations were issued or made in scientific, technical and trade forums, including tutorials given at the IBM educational facility, to Air Force personnel, the National Technical University, and the American Association of Aerosol Research.

13. The over-fifty publications that I authored, or in certain instances, with others, or presentations that I have made, are listed in my curriculum vitae, which is part of the MVA Expert Reports. As reflected in the curriculum vitae, these publications and presentations span wide range of topics, including identification of source of materials.

14. My other professional experience include membership of the Board of Editorial Advisors (Microcontamination), which is charged with the responsibilities of review of technical

articles submitted for publication, and service as a session chair for International Symposium on Contamination Control, The Microcontamination Conference, The American Association for Aerosol Research, and The Materials Society, which involved organization of scientific or technical sessions and the identification and recruitment of speakers for those sessions.

D. Honors and Recognition

15. I have received a number of honors in recognition of my educational and professional performance and experience. These have included an Award for Academic Excellence from Emory University (where I obtained my Masters in Business Administration); the honor as a Beta Gamma Sigma Scholar to recognize my exceptional performance in Graduate Studies in Business; as Guest Editor of "Solid State Technology;" and Salisbury Fellow of the University of Chicago and College of Arts and Sciences Fellow of the Florida State University.

E. Expert Testimony In Other Cases

16. I have testified as an expert witness during the preceding four years in the following two cases: (a) trial testimony in the case entitled, *State of Georgia v. Colvin C. Hinton, III*, in or about August 2005 (a first degree murder and kidnapping trial in which MVA Scientific Consultants examined small particle and other trace evidence); and (b) deposition testimony in the case entitled, *Cima Labs & Schwartz Pharma v. KV Pharmaceutical & Ethex Corp.*, in March 2005 (an intellectual property dispute revolving around the microstructure of time release active ingredients in ethical drugs).

**MVA Expert Reports'
Process and Methodology**

17. As detailed in the MVA Expert Reports, I employed the following process and methodologies in analyzing the samples of asbestos-containing materials to determine their source and concluding that the materials in each of the sixteen buildings match either Monokote-3, Zonolite Acoustical Plastic and/or Zonolite Finish Coat.

18. Upon receiving the samples from DGS, MVA assigned each sample an MVA Scientific Consultants laboratory identification number and noted the building from which each sample was taken.

19. My laboratory visually examined each sample with the aid of a stereomicroscope at magnifications up to forty times, noting the samples' general appearance and characteristics. We analyzed a portion of each sample by polarized light microscopy (PLM) and performed selected microchemical tests. Numerous individual particles of the sample were examined at magnifications up to 1,000 times, and the identity of the particles were determined based on their shape, color and optical properties as well as observation of the results of microchemical tests conducted under a microscope. The abundances of each of the individual components identified in the sample were also determined. The components of the sample were identified (e.g., chrysotile, vermiculite, and gypsum) and concentrations estimated.

20. We performed additional analyses to confirm and refine the findings of the PLM analyses. We analyzed a portion of each asbestos containing sample by scanning electron microscopy combined with energy dispersive x-ray spectrometry ("SEM/EDS"). This method identifies the chemical elements associated with individual particles of the sample, and allows confirmation of the identity of the individual components. For example, gypsum is composed mainly of the elements calcium, sulfur and oxygen, and the detection of numerous

calcium/sulfur/oxygen-rich particles by SEM/EDS would confirm a PLM finding that gypsum is a major component of a sample.

21. We further confirmed the identities of the individual components of each sample by analytical electron microscopy (“AEM”). This technique allows elemental analysis by EDS, as in the SEM, which provides an additional check on the identity of the components of the sample. AEM also allows measurement of the arrangements of atoms in individual particles using selected area electron diffraction (“SAED”). Many of the components of asbestos containing building materials are composed of crystals, with their atoms placed in specific arrangements relative to each other. SAED allows a measurement of that arrangement, which can be compared to the known arrangements of crystalline materials to identify the exact nature of the crystals in the sample. Since some components of some asbestos containing building materials (such as gypsum and limestone) are soluble in acids, portions of each sample were immersed in acid and the proportion that dissolved was measured in order to determine the fraction of acid soluble material present.

22. All of this data – the shape, color, optical properties, and abundance of different particle types, along with microchemical test results, elemental composition, arrangement of atoms and the solubility in acid – was collated and examined and the identity and abundance of each material making up the sample was determined.

Reliability of MVA’s Methodology and Formula Database

23. After determining the components of the samples and their abundance, we compared the samples to the formulas of asbestos products that were manufactured during the past eighty years, (including those manufactured by Debtors), which MVA Scientific Consultants maintains in a database. These database formulas were obtained through

manufacturers of asbestos products, such as Debtors, who in the past were required to disclose the formulas of their products when it was discovered that asbestos poses serious and potential harm to human beings.

24. This formula database contains over two thousand formulas of asbestos containing building materials from a total of thirty-six manufacturers, including the four principal manufacturers of asbestos-containing fireproofing and acoustical plasters: WR Grace, US Gypsum, National Gypsum and US Mineral. Since 1990, MVA Scientific Consultants has analyzed thousands of asbestos-containing building material samples for the purpose of product identification. To my knowledge, no asbestos containing building material identified as a WR Grace product by my laboratory has ever been shown to be the product of a different manufacturer.

MVA Expert Reports' Findings and Conclusions Show the Presence of Monokote-3, Zonolite Acoustical Plastic and/or Zonolite Finish Coat in Each of the Buildings

25. Based on our analyses of the samples, it is my opinion, with a reasonable degree of scientific certainty, that the samples in each of the sixteen buildings matched the formulas of either Monokote-3, Zonolite Acoustical Plastic or Zonolite Finish Coat that were manufactured and sold by Debtors.

26. Our findings, as detailed in the MVA Expert Reports, are summarized in the following chart:

Claim No.	Building Address/ Name	Identification of the Product's Manufacturer
10648	28 Civic Center Plaza Santa Ana, CA 92701	Positive match with Monokote-3
10649	1416 9th Street Sacramento, CA 95814 (a/k/a Resources Building DSA 5)	Positive match with Monokote-3
10650	10333 El Camino Real Atascadero, CA 93423 (a/k/a Atascadero State Hospital)	Positive match with Monokote-3

10651	1234 East Shaw Avenue Fresno, CA 93710 (a/k/a Sierra S Reg HQ Shop)	Positive matches with Zonolite Acoustical Plastic and Zonolite Finish Coat
10652	714 P Street Sacramento, CA 95814 (a/k/a OB8)	Positive match with Monokote-3
10653	7650 South Newcastle Road Stockton, CA 95213 (a/k/a DSA 1023)	Positive match with Monokote-3
10654	2501 Harbor Blvd. Costa Mesa, CA 92626 (a/k/a Fairview Development Center, Building 3265)	Positive match with Zonolite Acoustical Plastic
10655	5100 O'Bynes Ferry Fd. Jamestown, CA 95327 (a/k/a Sierra Conservation Center)	Positive match with Monokote-3
10656	End of Hwy 202 @ Cummings Valley Tehachapi, CA 93561 (a/k/a California Correctional Institution – Bldg. J)	Positive match with Monokote-3
10657	2501 Harbor Blvd. Costa Mesa, CA 92626 (a/k/a Fairview Development Center, Building 3234)	Positive match with Zonolite Acoustical Plastic
10658	3100 Wright Road Camarillo, CA 93010 (a/k/a Ventura Youth Correctional Facility)	Positive match with Monokote-3
10659	1234 East Shaw Avenue Fresno, CA 93710 (a/k/a/ Sierra S Reg HQ Warehouse & Offices)	Positive matches with Zonolite Finish Coat and Zonolite Acoustical Plastic
10660	End of Hwy 202 @ Cummings Valley Tehachapi, CA 93561 (a/k/a California Correctional Institution – Bldg. B)	Positive match with Monokote-3
10661	31 East Channel Street Stockton, CA 95202 (a/k/a Stockton OB DSA 901 or 901 Stockton State Bldg.)	Positive match with Monokote-3
10662	744 P Street Sacramento, CA 95814 (a/k/a OB 9)	Positive match with Monokote-3
14411	7650 S Newcastle Road Stockton, CA 95213 (Building 969)	Positive match with Monokote-3

27. The materials that MVA Scientific Consultants reviewed or relied upon in reaching these opinions are contained in the MVA Expert Reports, mainly consisting of the results of the analyses conducted by MVA Scientific Consultants, including lab notes, data sheets, and spectra and micrographs.

Dated: New York, New York
April 17, 2007

A handwritten signature in black ink, appearing to read "Tim Vander Wood", written over a horizontal line.

DR. TIM VANDER WOOD